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ADDRESSING CHALLENGES IN ARTIFICIAL INTELLIGENCE

Human-Centered Design as Foundation for AI in Education

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About WISE

WISE is a global education platform and think-and-do tank convening leaders to shape the future of learning. Established in 2009 by Qatar Foundation under the leadership of its Chairperson, Her Highness Sheikha Moza bint Nasser. WISE drives educational innovation through policy engagement, research, leadership development, and practitioner programs. Through our year-round activities and flagship bi-annual Summit, WISE is building the future of education through strategic local, regional, and international collaborations.

About the WISE Innovation Briefs

The WISE Innovation Briefs are a new research initiative developed by the WISE Research and Policy team to highlight urgent challenges in education and explore promising, scalable solutions.

Each brief draws on practical insights from WISE Prize finalists, WISE EdTech Accelerator alumni, and WISE's broader global network of innovators and thought leaders.

This brief is part of a three-part series leading up to WISE 12, covering:

- **Accelerating Foundational Literacy and Numeracy** – Innovative approaches to improving literacy and numeracy, especially for underserved learners.
- **Addressing Challenges in Artificial Intelligence** – Exploring how AI is reshaping education, with a focus on innovation, ethics, and equity.
- **Improving the Teaching of Arabic Language** – Solutions aimed at strengthening Arabic instruction through better pedagogy, curriculum, and resources.

Addressing Challenges in Artificial Intelligence

Human-Centered Design as Foundation for AI in Education

Executive Summary

Education systems around the globe face a dual challenge: teacher shortages and a learning crisis affecting millions of children, particularly in underserved communities. Generative AI (GenAI) in education, and education in the age of AI, are recognized as transformative forces with the potential to reshape teaching and learning. Yet, a shared understanding of what AI is, how it should be taught, and how it fits across subject areas is lacking (OECD, 2025). These uncertainties and uneven adoption risk widening existing disparities inside and outside of school systems. The ongoing learning crisis can be mitigated by AI advancements, but it can also be exacerbated by the misuse and mis-instruction of these powerful tools.

The 2024-2025 WISE Prize for Education recognized this critical moment and named AI-related challenges as a key problem to address. Finalists were selected for their ability to respond to both teacher needs and learner gaps in culturally adaptive and locally grounded ways. As UNESCO International Centre for Technical and Vocational Education and Training (UNEVOC, 2021) notes, the ability of education institutions to harness AI's power varies greatly across contexts. This brief highlights promising innovations that center teachers and learners in the design of AI-driven tools and programs.

This innovation brief spotlights solutions intentionally designed to explore how AI can bridge educational divides and inequities, with a particular focus on the needs of the Global Majority. Achieving equitable implementation, beyond simply providing access to tools, requires careful attention to teacher and community engagement, inclusive pedagogical practices, and the development of forward-looking, 22nd-century skills. The WISE Prize Finalists for 2024-2025, TUMO Path (of TUMO Center for Creative Technologies) and AprendoLab (of Fundacion Relmagina), along with Accelerator Program alum Obrizum (2018), demonstrate effective examples of AI integration that center teachers and learners in the design and implementation process. Their success stems from three shared principles: personalized learning experiences that adapt to individual needs; community-driven approaches that ensure cultural relevance; and collaborative ecosystems that leverage local expertise.

These innovations demonstrate that when driven by the desire to level the playing field, AI has the potential to expand educational access and improve outcomes across diverse contexts, from rural Armenia to urban Chile. To realize this potential, however, educational institutions, governments, and technology developers must commit to addressing persistent issues, including digital divides and the lack of human-centered, locally grounded solution design.

AI and the Global Learning Divide: Bridging or Widening the Gap?

The adoption of AI-enabled technologies in the education space presents both vast opportunities and complex challenges, particularly for underserved communities globally. While evidence demonstrates AI's potential, ranging from personalized learning to adaptive assessments, without thoughtful integration, it could amplify existing educational disparities.

In a world facing a global learning crisis, the challenges are particularly acute in low- and middle-income countries. Up to 70% of 10-year-olds are in 'learning poverty,' meaning they cannot read or comprehend a simple text, while more than 251 million children and youth remain out of school (UNESCO, 2024; World Bank, 2022). A projected global teacher shortage of nearly 44 million by 2030 threatens educational progress (UNESCO, 2024).

A persistent digital divide—especially in low-income, rural, and marginalized communities—risks widening gaps in access and skills. This divide risks widening the gap between those who have access to technology and the skills to use it, and those who do not (Trucano, 2023). The introduction of AI-enabled educational technology in this context could potentially add another layer of complexity.

While we acknowledge the depth and breadth of AI-related challenges in education, spanning from ethical concerns to algorithmic bias, this brief focuses specifically on the practical challenges that a few Education Technology (EdTech) solutions aim to address.

In low- and middle-income countries,
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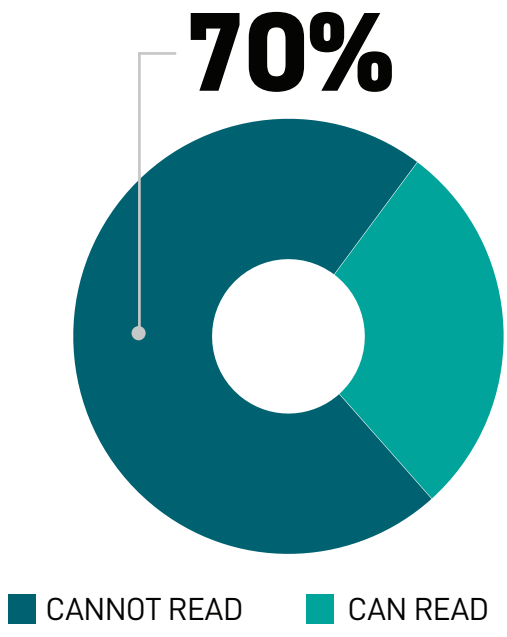
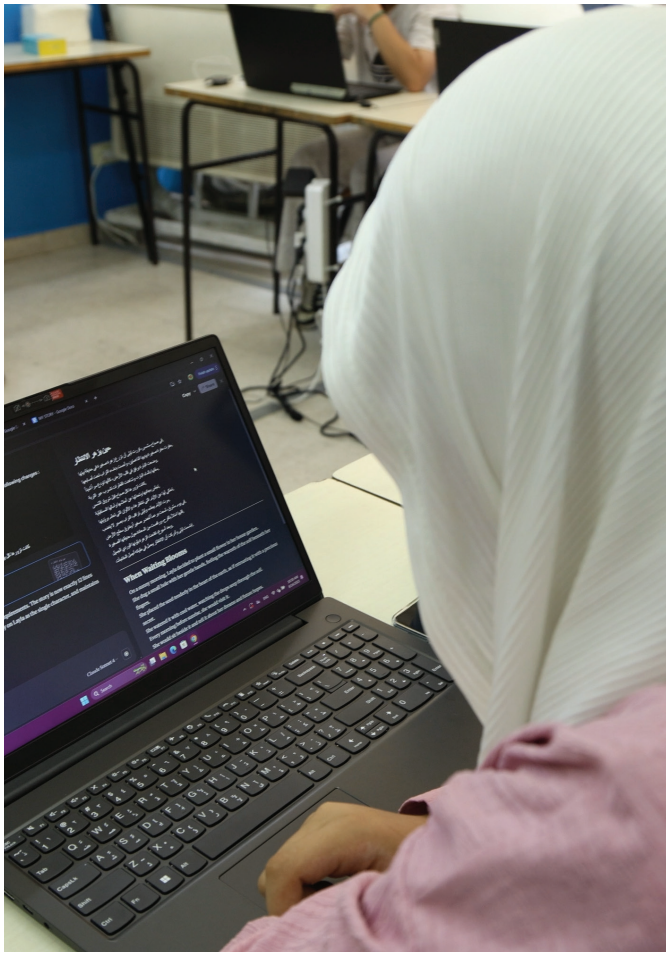




AI and Disparities in Underserved Communities

Limited internet access and low technological and infrastructural bandwidth remain major existing barriers, which are further compounded by the high digital demands of AI technologies. While AI holds significant potential to personalize learning and improve learning outcomes, particularly in low- and middle-income countries (Major et al., 2020; Shemshack et al., 2020), globally, 63% of youth aged 15–24 lack home internet access (UNICEF, 2020). In under-resourced schools, poor connectivity and infrastructure limit meaningful AI integration and the ability to engage with AI-enabled technology. These infrastructure barriers, along with a critical skills gap, with 68% of executives citing digital skills shortages as a major AI talent challenge (Deloitte, 2020).

The stakes extend beyond education to economic participation. AI appears to bring labor market disruption. While it can drive innovation and job creation, it poses risks of automation and displacement (World Economic Forum, 2025). Those with digital skills will be better positioned to adapt. Fostering AI literacy is therefore essential, not only for employability but for enabling students to critically assess AI's broader societal impacts (World Economic Forum, 2024). Beyond technical expertise, future-ready learners will need creativity, resilience, flexibility, curiosity, and a mindset of lifelong learning to thrive in a rapidly changing world (World Economic Forum, 2025).

Teacher Shortages and Teacher Professional Development in the Age of AI

The global teacher shortage is a significant challenge, with an estimated 44 million new teachers needed by 2030 to meet the goals of Sustainable Development Goal 4 (UNESCO & International Task Force on Teachers for Education 2030, 2023). This crisis is most acute in low-resource contexts, where shortages stem from deeper systemic issues affecting the profession's standing in society. The teaching profession is often characterized by a lack of competitive compensation, limited career growth, and diminishing public respect. As noted by UNESCO in its 2023 Global Teacher Report, restoring the prestige and attractiveness of teaching is essential to recruit and retain qualified educators. Valorizing teaching as a profession—through better pay, recognition, professional development, and working conditions—is not only imperative, but a cornerstone for improving education systems worldwide.

Professional development remains inaccessible to many teachers globally. Teachers in rural and remote areas often face significant obstacles in accessing in-person professional development opportunities, which are typically held in more urban or centralized locations. While EdTech tools cannot single-handedly solve the teacher shortage, they offer a starting point. They can contribute to bridging the gap by providing teachers with content, both online and offline; however, their implementation might face significant obstacles. Using mainstream apps like WhatsApp does not ensure ease of use; teachers without advanced ICT skills may feel unequipped to use AI tools. Darling-Hammond and Hyler (2020) suggest that providing technology to teachers without adequate training can lead to frustration and stress.

44M

New teachers needed globally by 2030

to achieve SDG4

The Imperative of Cultural Contextualization and Relevance in Educational Technologies

One of the key themes that emerged at the WISE11 (2023) summit was the importance of developing AI technologies that align with the cultural, linguistic, and societal norms of specific regions. This localized approach not only enhances relevance and adoption but also helps prevent the imposition of external value systems (WISE, 2024). Scholars have also long emphasized the importance of authentic, localized, and contextually relevant learning experiences.

Eguchi et al. (2021) highlight the salience of making learning authentic and culturally relevant, particularly when addressing complex topics such as AI and ethics. However, simply translating AI interfaces or content is insufficient; contextualization requires deeper engagement with local cultural narratives, pedagogies, and learner experiences (Butcher et al., 2023).

Solutions from WISE Innovation Ecosystem

Harnessing Innovative AI Approaches to Education Across Diverse Contexts

Considering the challenges outlined above, AI also enables promising practices. The WISE Prize for Education and the WISE EdTech Accelerator, support a growing community of innovators who are tackling these issues head-on. This section highlights a selection of these solutions, each tested in real-world contexts and demonstrating strong potential for scale. Together, they offer tangible pathways for addressing some of the most pressing barriers in education. Locally-led edtech initiatives are playing a growing role in making learning more relevant, engaging, and accessible for learners. These solutions are designed to address the unique needs of students and teachers, often a blend of community-based knowledge and technology.

TUMO Center for Creative Technologies, and Fundacion ReImagina, both recognized as WISE Prize Finalists in 2024-2025, through their respective initiatives, TUMO Path and Aprendolab, they demonstrate how AI can support meaningful, context-specific innovation. TUMO Path offers young people in Armenia and other countries, such as Argentina and Germany, the opportunities to explore creative and technical skills through self-directed learning enhanced by AI-powered personalization, effectively learning AI using AI. AprendoLab leverages AI to identify teachers' needs, providing tailored resources and professional development across Latin America through a self-curated digital platform. Together, they demonstrate how thoughtfully designed technology can help better fit the local educational landscape. Obrizum, WISE EdTech Accelerator alumnus (2017-2018), on the other hand, focuses on AI-powered personalized learning paths for educational institutions and enterprises on a global scale. While its approach is more broadly applicable across various contexts, it still leverages AI to tailor content to individual learners, creating adaptive and efficient learning experiences. All three initiatives, TUMO Path, AprendoLab, and Obrizum, demonstrate how AI can help transform education by offering more targeted, accessible, and effective learning experiences.

AprendoLab | Designing with and For Teachers: Meeting the Needs in the Classroom

AprendoLab is a collaborative educational platform co-developed with partners in Mexico, Ecuador, and Chile to support teachers across Latin America. The platform builds on Fundación Reimagina, an initiative launched by Fundación ReImagina during COVID-19 school closures that delivered over 750 digital educational resources and reached more than 1.8 million users across 10 countries.

Building on this foundation, AprendoLab advances the mission with AI-powered personalization and collaboration. The platform hosts extensive content, curated by local partners, that supports teachers in guiding their learning journeys, offering tailored resources designed in response to the specific needs they identify. The team works closely with teacher communities through partners in each country to gather feedback and co-create meaningful learning experiences. The initiative is designed to strengthen educators' capacity and improve student learning outcomes, particularly in public schools. It promotes active learning, 21st-century skills, and the development of the "pedagogical core," offering personalized professional development pathways particularly in high-vulnerability contexts.

AprendoLab emphasizes an ecosystemic approach focused on practical applicability, local customization, and innovation through collaboration. This flexible model allows the platform to respond to the diverse realities of teachers across the region and helps educators effectively mediate student learning in their specific contexts. At the heart of AprendoLab's approach is a teacher-centered philosophy:

> We have always trusted teachers as the main actors to provide the right information and understand students' needs. ... in this AI environment, we believe empowering teachers is the only way to truly engage students.

Ana María Raad,
Founder and CEO, Fundacion ReImagina

AprendoLab leverages AI to identify teachers' needs, deliver resources and training. It addresses challenges such as limited time, connectivity gaps, and digital literacy by providing adaptive content and access to peer communities.

Navigating major disruptions like the pandemic and AI

Fundación Reimagina began during the COVID-19 pandemic and has now evolved in response to a new challenge: the rise of AI, which led to the creation of AprendoLab. Alongside these rapid shifts, AprendoLab also operates in a region marked by considerable digital divides, where many teachers and schools have limited connectivity. Adapting quickly to such transformative shifts has required agility and innovation. To navigate some of these challenges, the team has developed hybrid approaches that combine online and offline resources, ensuring teachers can access support regardless of their connectivity level.

As classrooms adapt to changing student needs, teachers must also be equipped to navigate technology-driven change. AprendoLab views AI as a practical tool to personalize support for teachers and improve learning outcomes. They help teachers build the skills to guide students in a world where both technology and education are rapidly transforming: *"We must maintain the pedagogical vision for implementing AI."*

Adapting to diverse and changing classrooms

Classroom realities differ greatly—from rural schools in Chile to urban settings in Mexico—and AprendoLab has to remain responsive to this diversity. Upon entering the platform, teachers complete a self-reflection questionnaire that helps identify their primary challenges, professional development needs, and context. This initial assessment enables AprendoLab to provide personalized learning pathways tailored to their specific settings.

The additional challenge lies not only in identifying effective practices but in ensuring they are adaptable across varied contexts. Ink 10, ShapeTo meet this need, AprendoLab actively involves partner organizations, teachers, and real classroom experiences in the design process, helping to develop practical, flexible solutions grounded in everyday realities. *"If we really want to change the system, we have to empower the relationship between teachers, students, and the methodologies inside the classrooms... the classroom is permanently changing and challenged." - Ana María Raad, Founder and CEO, Fundación Relmagina*

Collaborative and Ecosystem-based Approach with the Focus on Local Needs and Flexibility

AprendoLab's one of the greatest strengths is its ability to unite a wide network of partners, including NGOs, governments, edtech companies, and other parties, to crowdsource and curate resources and maximize shared efforts. This collaborative model allows the platform to act as a hub, connecting teachers to high-quality, relevant materials across Latin America. By crowdsourcing content, AprendoLab ensures that it meets the real needs of teachers on the ground. This approach not only strengthens the education ecosystem but also extends the reach and impact of partner organizations.

A key factor behind AprendoLab's success is its strong commitment to the local context. The team collaborates with local partners to understand each community's unique needs. Adopting a bottom-up approach enables rapid, context-sensitive responses to crises—be it a pandemic, natural disaster, or social emergency—and ensures that resources remain practical and relevant. This adaptability has helped AprendoLab stay resilient and effective across diverse and often fragile settings, while remaining deeply rooted in local realities.

> "The ones that know best what Ecuador needs is the people that are working in Ecuador. Same for Mexico, same for Peru. If there's a gap, okay, let's go find it together."

Alejandra Ycaza,
Leader of Institutional Development,
Fundacion Relmagina

TUMO Path | Empowering Underserved Youth by Using AI to Teach AI at Scale

AI in education has the potential to be an equalizing force when harnessed responsibly and creatively. TUMO demonstrates this principle in action, using personalized AI education to empower youth worldwide with adaptive learning experiences on a large scale and developing AI technologies.

The TUMO Center for Creative Technologies began in 2011 as a free, pioneering educational initiative in Armenia, offering self-directed learning in technology and design through interactive workshops and self-learning modules. Since then, TUMO has expanded internationally to increase access to innovative education programs, operating in Lebanon, Germany, Albania, France, Portugal, Argentina, and Japan, with new locations launching this year in the US, the Netherlands, India, Angola, Spain, Georgia, Uruguay, and Kazakhstan. Every center in the TUMO network will launch a new AI curriculum, following the initial launch in Armenia.

TUMO currently provides over 3 million hours of learning annually to 35,000 students across 18 TUMO Hubs and 38 TUMO boxes—converted shipping containers transformed into classrooms—across the world, and that number is set to double over the coming years. For learners in more remote areas who cannot easily access the Hubs, TUMO deploys the mobile, technically equipped TUMO Boxes, which serve as self-study mini-centers. The team's vision is to make the most innovative AI education available to every underserved teenager, regardless of location or circumstance.

With a focus on language localization, cultural adaptation, and sustainability at scale, TUMO is preparing youth to thrive in an increasingly AI-driven world.

Keeping Up with Rapid Technological Change

A key priority for TUMO is ensuring its educational content remains relevant in a rapidly evolving technology landscape. TUMO embraces the constant need for adaptation and does not hesitate to push the boundaries. As a result, their approach is about "empowering to learn" rather than simply teaching fixed knowledge. That is the focus of the newly developed TUMO Path, supported by the WISE Prize – to teach AI using AI.

> “Curriculums are no longer about documents and lesson plans, they're about implementing a process of constant experimentation and continuous learning.”

Pegor Papazian,
Chief Development Officer,
TUMO Center for Creative Technologies

TUMO's proactive, mastery-based approach to AI in education is unique in two ways: first, it focuses on AI education that empowers young people to shape their relationship with the technology, avoiding the trap of becoming passive consumers of AI, and second, it uses AI to coach students on their overall education trajectory by generating and updating unique learning paths with a model trained to help them maximize their learning outcomes. The model enables students to build personalized learning paths across 14 skill categories, including the newly launched Generative AI curriculum.

> The self-directed model is not about removing structure; it's about giving students the freedom to build one that fits them

Vahakn Papazian,
Director of Product Engineering,
TUMO Center for Creative Technologies

Expanding Access: Commitment to Preventing the Further Exacerbation of the AI Gap

TUMO is keenly aware not only of risks such as AI bias and misinformation, but also of the danger that AI might disproportionately benefit already privileged students, leaving hundreds of millions of underserved students at an even greater disadvantage. They remain committed to reducing the educational gap through innovation by providing life-changing learning experiences to students in underserved urban and rural areas worldwide.

"And there's a real danger of AI making the gap much larger. Because if you're an incumbent, you're prepared to accept this technology and to roll with it really quickly. The bigger the gap gets, the harder it is to close."
- Vahakn Papazian, Director of Product Engineering, TUMO Center for Creative Technologies

TUMO's Global Expansion: Tailoring Education for Local Needs

As TUMO has been expanding to the Global South, they are aware of the need to tailor content to local languages and cultural contexts. This goes beyond simple translation, involving collaboration with local partners to adapt to the unique needs of each region

> AI technology skills are becoming foundational literacies like language or numeracy. At the same time, AI has the potential to bolster learning outcomes across traditional literacies, something we experienced in our work strengthening Arabic and math skills with AI.

Pegor Papazian,
Chief Development Officer,
TUMO Center for Creative Technologies

A major challenge in localization is the digital gap, not just in access to technology but also a gap in language and cultural representation. While AI resources in English are advancing quickly, languages with less online presence, like Armenian, are lagging. TUMO is determined to help prevent smaller communities from fall further behind due to the commercial forces shaping the development of AI. Their partnership with a local speech-to-text company in Armenia is one example of how they're ensuring AI solutions are culturally and linguistically relevant. These efforts reflect TUMO's deep commitment to equity in education across borders, languages, and communities. As they put it, "TUMO is working hard to raise the floor and raise the ceiling for everyone."

OBRIZUM | Revolutionizing Digital Learning with AI-Driven Personalization

Obrizum was founded to address the shortcomings of traditional digital learning methods, which often fail to meet the diverse needs of learners in today's fast-paced, information-rich world. Recognizing that one-size-fits-all approaches result in disengagement and poor outcomes, Obrizum leverages AI to build highly custom 'Knowledge Spaces' from trusted content on any subject. Knowledge Spaces are a collection of multimedia assets (videos, documents, podcasts, etc.) automatically curated by AI based on concept analysis and interrelationships. Through its AI-powered platform and unique application of metacognitive assessments, Obrizum tailors content recommendations to each learner's level of understanding, confidence, and self-awareness, ensuring more effective and engaging learning journeys.

> With information overload and an accelerating pace of change, intelligent ways of navigating knowledge in a safe and effective way has never been more important.

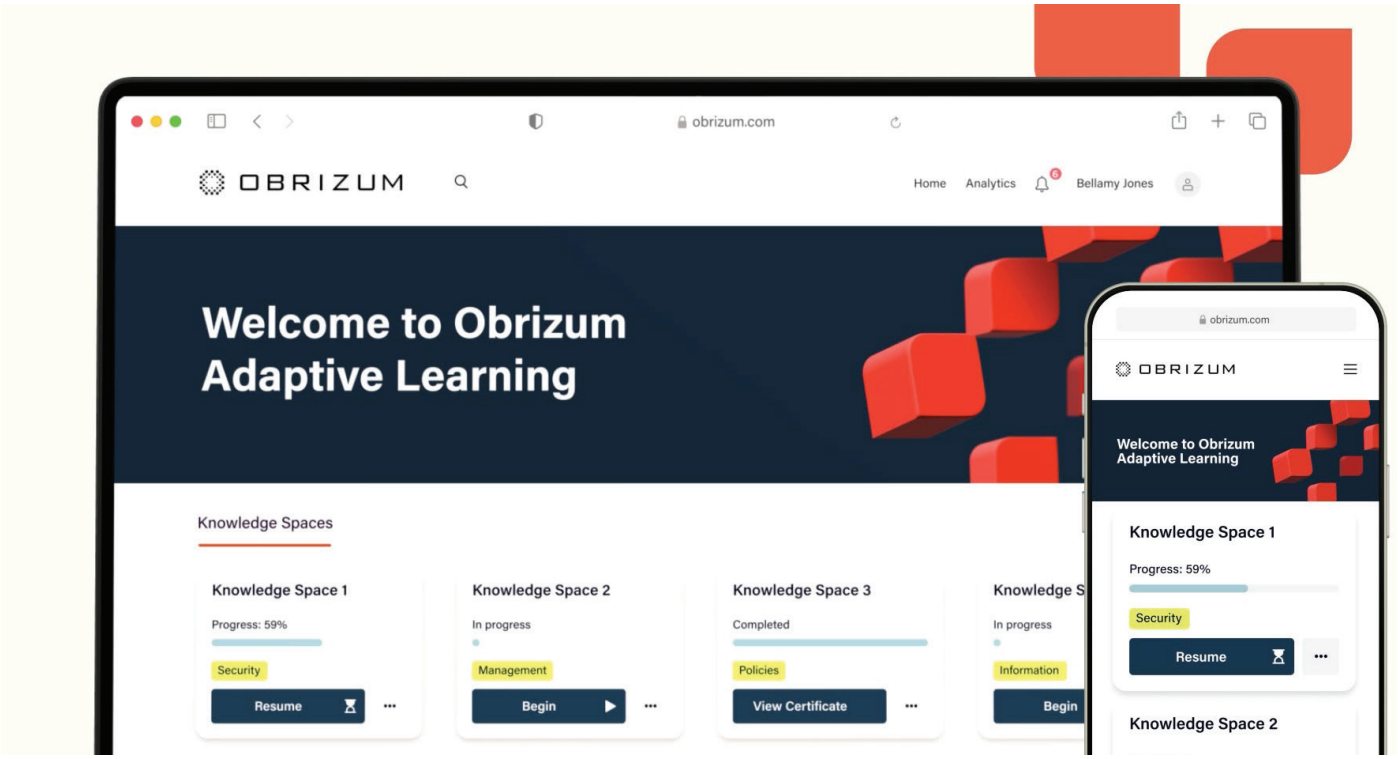
Chibeza Agley,
CEO, Obrizum

Obrizum tackles the challenge of content overload faced by organizations by offering a solution that analyses, organizes, segments, and summarizes learning materials to improve transparency and efficiency for learning leaders. By embedding data and analytics into its core, Obrizum ensures that both learning outcomes and content effectiveness are continuously measured and optimized. With a focus on true adaptive learning, Obrizum empowers organizations to streamline their training processes and achieve measurable results, revolutionizing the way knowledge is transferred and applied across industries.

To date, Obrizum has focused on serving the needs of corporate learning and professional qualification providers through its white-label platform offering. Recently, the company signed a strategic partnership with Anthology to power hyper-personalized adaptive learning and deliver next-generation insights via an Application Programming Interface (API). This ability to offer deep integration into existing platforms will enable millions of students and educators to benefit from Obrizum's technology.

Addressing Complex Educational Challenges with AI-Driven Solutions

Obrizum tackles the growing complexity of modern education by addressing the challenges posed by an ever-expanding volume of information and the increasingly non-linear nature of career paths. As mentioned during the interview, *"One of the big challenges that they're trying to solve is the fact that there's all of this information out there(...) and it's also changing, it's changing a huge amount (...) Individual careers are becoming more non-linear(...) so how do you manage that?"* By utilizing AI, Obrizum's platform helps educational institutions and businesses manage their proprietary content more conveniently and securely. It allows them to ringfence trusted content and organize it into dynamic, flexible, and private knowledge spaces. These spaces can be easily updated to reflect new information and evolving career demands.



Revolutionizing Personalized Learning through Adaptive AI

Obrizum's Knowledge Spaces automatically provide the "map" of a given subject area, and then the platform's adaptive learning algorithms provide the "satellite navigation system" capable of guiding each individual on a highly personalized learning journey to acquire knowledge, skills, and confidence in the key concepts that make up that subject.

"Truly personalized learning has been much harder to realize digitally than anyone expected; so much so that the term personalized learning has lost its meaning. What people refer to as personalized learning is often the opportunity to select from a pre-set pathway or set of suggested whole courses. This is because digital learning operators have mostly attempted to replicate classroom-based approaches online." Obrizum's adaptive AI system adjusts to each learner's individual needs, ensuring an efficient and tailored learning experience that evolves in real time based on data and learner feedback.

Harnessing Explainable AI to Measure Learning Impact

Obrizum sets itself apart with its use of explainable AI, allowing educators and learners to track progress and outcomes in a transparent and measurable way. This approach helps users understand and trust the results produced by machine learning algorithms, a principle IBM defines as "a set of processes and methods that allow human users to comprehend and trust the results and output created by machine learning algorithms."

> "the AI models used to deliver Obrizum's automation, adaptability, and analytics have all been developed with explainability at their core AI (...). This transparency means that educators and students can always check, challenge, and test the output to understand its accuracy and performance in their own context."

Chibeza Agley,
CEO, Obrizum

This emphasis on explainability ensures that the learning process is both efficient and accountable, providing clear, auditable metrics that contribute to continuous improvements in teaching and learning strategies.

Key Insights, Why They Matter & Policy Tip

1. Design Human-Centered AI that Enhances Human Potential

This human-centered approach preserves the essential relational elements of teaching while removing technological barriers to learning. AprendoLab maintains that "empowering teachers is the only way to truly engage students." TUMO Path gives students "freedom to build structure that fits them," and Obrizum ensures learners can "check, challenge, and test" AI outputs. All three prioritize human agency over technological automation.

Policy Tip: Mandate that AI educational systems maintain human oversight and decision-making authority while using technology to complement human expertise..

2. Bridge the Digital Divide with Hybrid Solutions

Educational equity expands when AI-powered tools function effectively both online and offline, reaching teachers and learners regardless of their connectivity status. AprendoLab's hybrid approach ensures teachers in connectivity-limited areas can still access AI-powered resources, while TUMO deploys mobile "TUMO Boxes" to bring learning opportunities to youth directly in remote communities. These solutions ensure AI benefits don't exclude underserved communities already facing educational inequities.

Policy Tip: AI educational initiatives to include offline functionality and establish infrastructure programs prioritizing connectivity in underserved areas.

3. Transform Learning through AI to Meet Individual Needs

The personalized approach unlocks learning potential that traditional one-size-fits-all methods often leave unrealized. Initiatives like AprendoLab, TUMO Path, and Obrizum demonstrate AI's capability to adapt to individual learners. AprendoLab uses AI to identify teachers' specific needs, through self-reflection questionnaires that help teachers assess their challenges and contexts, while gathering continuous feedback from teacher communities to co-create meaningful learning experiences. TUMO Path generates unique learning paths across 14 skill categories, and Obrizum adjusts content based on each learner's understanding level.

Policy Tip: Adopt AI educational platforms that demonstrate adaptive, individualized learning experiences over standardized approaches.

4. Harness Local Knowledge through Collaborative Practices while Embracing Global Innovation

The culturally grounded approach creates solutions that resonate with local knowledge and context while leveraging global technological advances. TUMO Path collaborates with speech-to-text companies in Armenia to bridge language gaps. AprendoLab closely works with local partners and communities of teachers across Mexico, Ecuador, and Chile to ensure resources meet real classroom needs. The initiative recognizes that "the ones that know best what Ecuador needs are the people who are working in Ecuador."

Policy Tip: Promote AI educational tools that demonstrate meaningful community partnership and local adaptation beyond simple translation.

5. Build Trust Through Transparent and Accountable AI Systems

Obrizum's emphasis on explainable AI allows educators to understand machine learning decisions, ensuring "educators and students always have the ability to check, challenge, and test the output." This transparency prevents AI from becoming a "black box" in educational settings where trust and accountability are essential.

Policy Tip: Establish regulatory standards requiring AI educational tools to provide clear explanations of their decision-making processes and learning recommendations.

Conclusion

The experiences of TUMO Path, AprendoLab, and Obrizum reveal a critical insight into AI's role in education: technology cannot bridge educational divides on its own. AI's potential is unlocked when it is designed with and for the communities it aims to serve—a process that recognizes their uniqueness of contexts, challenges, and opportunities.

These innovations are impactful and scaling not solely due to technological sophistication but through their human-centered design principle: personalizing learning while preserving agency, empowering teachers as the core of the system, and adapting to various contexts.

By centering local knowledge, expanding access to teacher professional development, and maintaining focus on educational equity, AI potential can be harnessed to create more responsive and resilient educational systems for all learners and teachers.

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